

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~An integrated circuit~~ A bipolar junction transistor comprising:
a base mesa region that includes a perimeter;
~~a bipolar junction transistor in which~~ a base contact region that includes a spine with at least one base finger that extends from one side of the spine and at least one base finger that extends from a second side of the spine, and
an emitter region that includes ~~wherein~~
an inner periphery ~~of an emitter region~~that is adjacent to a periphery of said spine and base fingers, and
an outer periphery ~~of the emitter region~~that occupies a portion of the perimeter of ~~a~~the base mesa region,
wherein the portion of the perimeter of the base mesa region that is occupied by
the outer periphery of the emitter region surrounds the base contact region on a plurality
of sides.
2. (Currently amended) The ~~integrated circuit~~ bipolar junction transistor of claim 1, ~~wherein~~
further comprising an emitter contact region having an isomorphic shape with respect to said emitter region ~~is and being~~ in direct physical contact with the top surface of said emitter region.
3. (Currently amended) The ~~integrated circuit~~ bipolar junction transistor of claim 2, wherein said contact regions comprise a conductive material.
4. (Currently amended) The ~~integrated circuit~~ bipolar junction transistor of claim 3, wherein said conductive material comprises metal.

5. (Currently amended) The ~~integrated circuit~~ bipolar junction transistor of claim 1, wherein said bipolar junction transistor comprises ~~further comprising~~ at least one of the following semiconductor materials: Si, SiGe, GaAs, AlGaAs, InGaP, InP.

6. (Currently amended) The ~~integrated circuit~~ bipolar junction transistor of claim 1, wherein said bipolar junction transistor comprises a heterojunction bipolar transistor.

7. (Currently Amended) The ~~integrated circuit~~ bipolar junction transistor of claim 6, wherein a base region contacting tab is embedded within an extension from the spine.

8. (Currently amended) The ~~integrated circuit of claim 6, wherein said heterojunction bipolar transistor is employed in~~ An apparatus comprising:

a battery; and

a linear power amplifier coupled with the battery and configured to amplify a radio frequency signal, the linear power amplifier including a heterojunction bipolar transistor (HBT) having:

a base mesa region that includes a perimeter;

a base contact region that includes a spine with at least one base finger that extends from one side of the spine and at least one base finger that extends from a second side of the spine, and

an emitter region that includes:

an inner periphery that is adjacent to a periphery of said spine and base fingers, and

an outer periphery that occupies a portion of the perimeter of the base mesa region,

wherein the portion of the perimeter of the base mesa region that is occupied by the outer periphery of the emitter region surrounds the base contact region on a plurality of sides.

9. (Currently amended) The ~~integrated circuit apparatus of claim 8, wherein said linear power amplifier is employed in the apparatus comprises a cell~~ mobile phone.

10. (Currently amended) The ~~integrated circuit apparatus of claim 6~~ claim 8, wherein said heterojunction bipolar transistor is employed in ~~power amplifier is~~ a saturated power amplifier.

11. (Canceled)

12. (Currently amended) The ~~integrated circuit apparatus of claim 6~~ claim 8, wherein said heterojunction bipolar transistor ~~HBT~~ comprises at least one of the following pairs of semiconductor materials: ~~an AlGaAs/GaAs HBT or and an InGaP/GaAs HBT.~~

13. (Currently Amended) The ~~integrated circuit apparatus of claim 7~~ claim 8, wherein dimensions of at least one of the ~~extensions from said spine~~ ~~base fingers~~ comprises: 10 microns in length by 1 micron in width.

14. (Currently amended) The ~~integrated circuit of claim 7~~ apparatus of claim 8, wherein ~~the a~~ shortest distance between said base region and said emitter region ~~comprises is~~ on the ~~an~~ order of about 15 to 20 microns.

15. (Currently Amended) The ~~integrated circuit of claim 7~~ apparatus of claim 8, wherein ~~said the~~ ~~HBT comprises~~ at least five ~~extensions~~ ~~base fingers~~ are connected to said spine.

16. (Currently Amended) The ~~integrated circuit of claim 7~~ apparatus of claim 8, wherein ~~said the~~ ~~HBT comprises~~ at least six ~~extensions~~ ~~base fingers~~ are connected to said spine.

17-24. (Canceled)

25. (New) The apparatus of claim 8, wherein the inner periphery of the emitter region is adjacent to three sides of individual base fingers that extend from the spine.

26. (New) The bipolar junction transistor of claim 1, wherein said bipolar junction transistor comprises an AlGaAs/GaAs heterojunction bipolar transistor or an InGaP/GaAs heterojunction bipolar transistor.

27. (New) The bipolar junction transistor of claim 1, wherein dimensions of at least one of the extensions from said spine comprises: 10 microns in length by 1 micron in width.

28. (New) The bipolar junction transistor of claim 1, wherein a shortest distance between said base region and said emitter region is on an order of about 15 to 20 microns.

29. (New) The bipolar junction transistor of claim 1, wherein the inner periphery of the emitter region is adjacent to three sides of individual base fingers that extend from the spine.